

Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: FAIL-SAFE

Report Number: P561170

Luminaire Tested: FSR-12-4-LD4-1STD-35-UNV-82-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561170
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)
Test Lab: INNOVATION CENTER
Issue Date: 7/20/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-12-4-LD4-1STD-35-UNV-82-85-EDD-90
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2533.0 lumens
Efficiency: N/A
Efficacy: 76.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

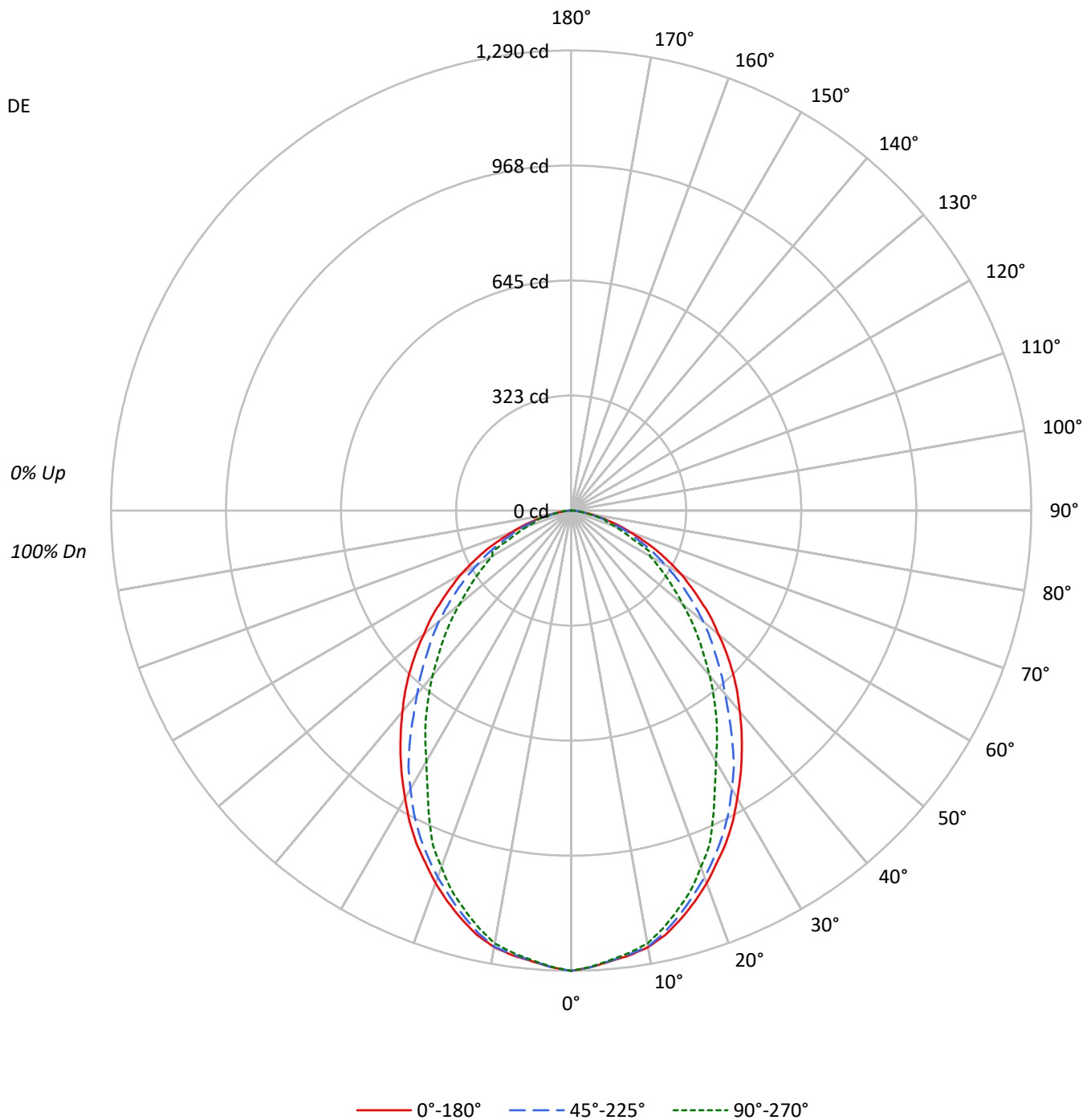
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3472	3472	3472
5°	3425	3421	3417
10°	3395	3391	3367
15°	3304	3270	3225
20°	3182	3131	3046
25°	3051	2985	2799
30°	2892	2800	2522
35°	2739	2587	2332
40°	2583	2358	2122
45°	2435	2180	1919
50°	2254	2023	1711
55°	2085	1833	1533
60°	1911	1638	1373
65°	1681	1434	1216
70°	1385	1256	1033
75°	1101	962	1009
80°	739	693	648
85°	460	553	645

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2435 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	120.1	4.7
10°-20°	329.6	13.0
20°-30°	456.3	18.0
30°-40°	486.6	19.2
40°-50°	443.9	17.5
50°-60°	347.8	13.7
60°-70°	226.7	8.9
70°-80°	100.4	4.0
80°-90°	21.5	0.9
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	906.1	35.8
0°-40°	1392.7	55.0
0°-60°	2184.4	86.2
0°-90°	2533.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2533.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1290	1290	1290	1290	1290	
5°	1268	1266	1266	1265	1265	120
15°	1186	1186	1174	1162	1158	333
25°	1028	1022	1005	970	943	472
35°	834	828	788	728	710	521
45°	640	626	573	525	504	493
55°	444	431	391	345	327	399
65°	264	249	225	230	191	260
75°	106	98	92	88	97	113
85°	15	16	18	19	21	21
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1290.3	1290.3	1290.3	1290.3	1290.3
2.5°	1281.3	1281.3	1281.3	1279.8	1279.8
5°	1267.9	1266.4	1266.4	1264.9	1264.9
7.5°	1257.5	1256.0	1254.5	1253.0	1250.0
10°	1242.5	1242.5	1241.1	1233.6	1232.1
12.5°	1218.7	1217.2	1211.2	1200.8	1197.8
15°	1185.9	1185.9	1173.9	1162.0	1157.5
17.5°	1150.1	1148.6	1133.7	1121.7	1115.8
20°	1111.3	1108.3	1093.4	1074.0	1063.5
22.5°	1068.0	1068.0	1050.1	1024.8	1014.3
25°	1027.7	1021.8	1005.4	969.6	942.7
27.5°	981.5	972.6	954.7	903.9	872.6
30°	930.8	926.3	901.0	835.3	811.5
32.5°	883.1	875.6	848.7	780.1	760.7
35°	833.8	827.9	787.6	727.9	710.0
37.5°	784.6	777.1	726.4	678.7	656.3
40°	735.4	726.4	671.2	628.0	604.1
42.5°	689.1	677.2	623.5	577.3	550.4
45°	639.9	626.5	572.8	525.1	504.2
47.5°	590.7	578.8	529.5	480.3	456.4
50°	538.5	528.0	483.3	434.1	408.7
52.5°	495.2	478.8	435.6	386.3	365.5
55°	444.5	431.1	390.8	344.6	326.7
57.5°	398.3	384.8	347.6	304.3	289.4
60°	355.0	335.6	304.3	267.0	255.1
62.5°	307.3	292.4	265.5	234.2	249.1
65°	264.0	249.1	225.2	229.7	190.9
67.5°	216.3	208.8	187.9	167.1	161.1
70°	176.0	167.1	159.6	137.2	131.3
72.5°	140.2	131.3	120.8	108.9	104.4
75°	105.9	98.4	92.5	88.0	97.0
77.5°	73.1	70.1	65.6	61.2	59.7
80°	47.7	46.2	44.7	43.3	41.8
82.5°	28.3	28.3	28.3	28.3	28.3
85°	14.9	16.4	17.9	19.4	20.9
87.5°	8.9	8.9	10.4	11.9	13.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)